

## Acknowledgements

Papworth Hospital – Chest Drain Insertion Guide

BTS Pleural Disease Guidelines 2010

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# Chest Drain

## Patient information leaflet

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## The reasons for the procedure

The pleural space is the space between the inside of the rib cage and the lungs. A chest drain is needed if fluid or air has collected in your pleural space. This is called a pleural effusion (fluid) or Pneumothorax (air). These can stop the lungs working properly and cause you to be breathless. A chest drain will allow this fluid or air to be drained from the body and will also allow additional treatment to be given to the pleural space if needed. Your doctors and nurses will be able to explain whether air or fluid (or both) is the problem in your case and why it needs treating with a chest drain.

## The nature of the procedure

A chest drain is a thin plastic tube which is put in between the ribs to lie in the pleural space.

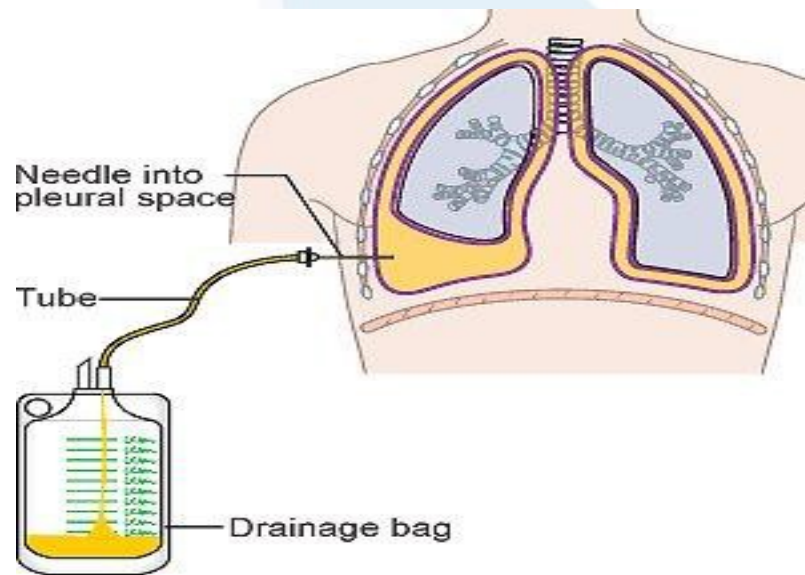


Diagram showing how a pleural effusion is drained  
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## The alternatives for the procedure

Insertion of a chest tube is one of the safest and quickest ways to manage your condition. An alternative would be to have surgery under a general anaesthetic to drain the chest and inflate the lung.

## The consequences for not having the procedure

If you do not have a chest drain then the air or fluid will not drain and may continue to accumulate. Your symptoms will not get better and may worsen. This may result in the need for an operation to drain the fluid or air and re-inflate the lung.

## How to contact us/further information

If you have any questions, please speak first to your nurse on the ward who can call one of the doctors if required.

If you are at home and have a problem after your drain has been removed, contact the ward directly on **0151 290 4152** or your **General Practitioner**.

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- Sometimes air can collect under the skin next to the chest drain. This can cause a mild swelling or a “crackly” feeling in this area. This is not usually a major problem, but can need treatment if it progresses.
- If you notice anything unusual, near your chest drain site you should tell your nurse about this
- Occasionally the chest drain may damage a blood vessel and cause serious bleeding. This only affects about one in 500 patients. This may be serious and require an operation. Rarely such bleeding can be fatal. Your doctors and nurses will do everything they can to avoid this problem
- One of your organs, such as the liver or spleen can be punctured as the drain is put in and an operation may be required to mend the damage. This can be very serious and may be fatal but is very rare.

**The doctors and nurses will be observing you for any complications. However, if you develop pain, difficulty breathing, redness around the drain or a temperature - tell the doctors or nurses.**

### **The discomforts of the procedure**

You will experience some stinging as the local anaesthetic is injected but once the area is numbed you should not feel any pain, however, you will be aware of some pressure or tugging. Once the drain is in most people do get some pain or discomfort. You must tell your doctors and nurses if this happens and they will give you pain killing medication to control this.

- About half an hour before the procedure, you may be offered some pain killing medication which helps make the procedure more comfortable.
- Chest drains are usually put in on the ward at your bed side by an experienced doctor. Sometimes a junior doctor learning the procedure will put the drain in, but they will always be supervised by a doctor who is already fully trained in the procedure.
- The doctor will use ultra-sound (sound waves) to find the right place to insert the needle or tube. This may be done immediately before the procedure at your bedside or you will be sent to the Radiology Department.
- Before the procedure starts, the doctor will ask you to sit or lie in a comfortable position. The drain is usually put into the side of your chest, below the armpit, as it is often the safest site and more comfortable for you.
- Once you are resting comfortably, the skin will be cleaned with an antiseptic fluid to kill any bacteria. This fluid often feels cold. A local anaesthetic is then injected into the skin, to numb the place where the chest drain will go. This may sting but this feeling passes off quickly.
- Your doctor will then make a small cut into the numb area of skin and gently open a path for the chest drain. This should not be painful, although you may feel some pressure or tugging.
- The chest drain is then gently eased into the chest and connected to plastic tubing and a drainage bottle containing water. The water acts as a one way seal to allow air or fluid to drain out and not go back into your chest.
- **The whole procedure usually takes about 20-30 minutes.**

You must tell your doctor about any previous bleeding problems or risks associated with bleeding and any allergies to medicines or latex.

**Your doctors and nurses will look after your chest drain but there are a few simple rules that you should follow:**

- The drainage bottle is usually placed on the floor.
- **Never lift the bottle higher than your chest**
- **Do not** swing the bottle by the drain
- **Do not** leave the ward without letting the nursing staff know.
- If your drainage bottle is knocked over, let the nursing staff know.
- The drain can come out if pulled or twisted, so please take care. If you feel your drain may have moved or may be coming out, please tell your nurse
- The drainage bottle may be attached to a suction machine to help drain air if you have a collapsed lung (pneumothorax). You should stay close to your bed as the suction drain will limit your movement
- Inform the nurse if you feel any increased shortness of breath
- Your drain may require “flushing” with sterile water to stop it from blocking. If this is needed it will be done by the nursing staff and is not painful
- You may see air bubbling out through the bottle. This is expected if you have a pneumothorax. Fluid may also drain from the chest. This is usually clear but sometimes may be blood stained.

## **This is nothing to be alarmed about**

Your doctors will tell you how long the drain needs to stay in. This will depend on how you are responding to treatment. You may need to have several chest X-rays during this time.

Removing the drain is straightforward. Once all the dressings are removed, the drain is gently pulled out of the chest. This can feel uncomfortable but only lasts a few seconds. A stitch may be left where the drain has been and should be removed after about seven days.

## **The benefits of the procedure**

Draining the fluid or air that has collected will help relieve any symptoms that you may be experiencing such as breathlessness. It will also allow fluid samples to be taken to help confirm a diagnosis.

## **The risks of the procedure**

In most cases, a chest drain and its use in treatment is a routine and safe procedure. However, like all medical procedures, chest drains can cause some problems.

**All of these can be treated by your doctors and nurses:**

- Chest drains sometimes fall out and need to be replaced.
- Your doctor will use a secure dressing or a stitch to try and stop this happening.
- Sometimes chest drains can become infected but this is uncommon (affecting about one in 50 patients). Your doctor will thoroughly clean the area before putting in a chest drain to try to prevent this.